

REMARKS

This case has been carefully reviewed and analyzed in view of the Office Action dated 14 June 2005. Responsive to the Office Action, Claims 10-11 have now been canceled from this case without prejudice or disclaimer, and Claims 1-2, 8-9, and 13 have been amended for further prosecution with the other pending Claims. In addition, Claims 16-17 have been newly inserted. It is believed that with such amendment and insertion of Claims, there is a further clarification of their recitations.

In the Office Action, the Examiner rejected Claims 1-6 and 11-14 under 35 U.S.C. § 102(a) as being anticipated by the Ruckdeschel reference. The Examiner also rejected Claim 10 under 35 U.S.C. § 103(a) as being unpatentable over Ruckdeschel in view of the Harris reference. In setting forth the latter rejection, the Examiner acknowledged that Ruckdeschel fails to disclose a heat dissipation pad having a fixed portion, but cited Harris for disclosing such feature, concluding therefrom that it would have been obvious to one of ordinary skill in the art to have accordingly modified Ruckdeschel's apparatus.

Also in the Office Action, the Examiner rejected Claims 7-9 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Ruckdeschel in view of Harris, further in view of the Wang reference. In setting forth this rejection, the Examiner acknowledged that Ruckdeschel and Harris fail to disclose a heat pipe, a plurality

of heat dissipation fins, or a fan connected as claimed. The Examiner, however, cited Wang for disclosing such features and again concluded that it would have been obvious to one of ordinary skill in the art to have accordingly modified Ruckdeschel's apparatus.

As each of the newly-amended and newly-inserted independent Claims 1 and 16 now more clearly recites, Applicant's heat sink module includes among its combination of features a base and "a heat dissipation pad ... biased to a cambered shape," which is provided with "a fixing portion coupled to the base and a flexible portion extending deflectively therefrom to terminate at a free end." As each of these Claims 1 and 16 also now more clearly recites, the "flexible portion ... [is] deflectable to a substantially flat configuration when captured" against a heat generating device such as a CPU.

The full combination of these and other features now more clearly recited by Applicant's pending Claims is nowhere disclosed by the cited references. Note in this regard that while the primarily-cited Ruckdeschel reference does employ the use of a spring element in mounting a power semiconductor module to a heat sink, its structure departs quite significantly from that now more clearly recited by Applicant's pending Claims. The spring beam 36 in Ruckdeschel's clamp structure 32 is firmly and securely retained in a bowed configuration by capturing both ends defining the bowed structure within raised retentive edges 46 of the clamp body 34, as shown in each of the disclosed embodiments. This bowed

configuration is maintained even when the clamp structure 32 is mounted to the circuit board 28, so as to bear against the power amplifier 22. Firmly retaining the spring beam 36 in this manner is essential, as Ruckdeschel exploits the spring beam's "high coefficient of thermal expansion" to increase the force applied thereby, rather than making use of any actual deflection of that spring beam 36 during use.

Hence, Ruckdeschel fail to disclose any heat dissipation pad having "a flexible portion extending deflectively therefrom to terminate at a free end," such that it remains "deflectable to a substantially flat configuration when captured" against a heat generating device, as Claims 1 and 16 now more clearly recite. The reference teaches quite against it. Indeed, such free deflectability in Ruckdeschel's spring beam 36 would negate the buildup of any force from the spring beam material's high coefficient of thermal expansion, as Ruckdeschel specifically intends with its retentive structure. Such deflectability in Ruckdeschel's assembly would therefore frustrate its very purpose.

Given such contrary teachings of the primarily-cited Ruckdeschel reference, the teachings of the secondarily-cited Harris and Wang references are found to be quite ineffectual to the present patentability analysis. Indeed, Harris was cited specifically for disclosing the ends of each heat conductor being fixed to a heat dissipation pad structure. Neither Harris nor Wang provides for a heat dissipation pad having both a "fixing portion ..." and "a flexible portion extending

deflectively therefrom to terminate at a free end," as Claims 1 and 16 now more clearly recite, much less in combination with the other features now more clearly recited by the Claims.

It is respectfully submitted, therefore, that the cited Ruckdeschel, Harris, and Wang references, even when considered together, fail to disclose the unique combination of elements now more clearly recited by Applicant's pending Claims for the purposes and objectives disclosed in the subject Patent Application. The other references cited by the Examiner but not used in the rejection are found to be further remote from Applicant's claimed apparatus when patentability considerations are taken properly into account.

It is now believed that the subject Patent Application has been placed fully in condition for allowance, and such action is respectfully requested.

Respectfully submitted,
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